UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,672	08/15/2001	Mihaela Van Der Schaar	US010212	3218

			EXAMINER
24737	7590	11/02/2006	WONG, ALLEN C

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ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/930,672	SCHAAR ET AL.
	Examiner	**Art Unit**
	Allen Wong	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 August 2006</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see appeal brief, filed 8/9/06, with respect to the

rejection(s) of claim(s) 1-36 under De Bonet in view of Wu have been fully considered

and are persuasive. Therefore, the rejection has been withdrawn. However, upon

further consideration, a new ground(s) of rejection is made in view of Wu in view of Xin

(US 2004/0071358).

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).
        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 1-36 are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1, 5 and 9-12 of

copending Application No. 09/793,035. Although the conflicting claims are not identical,

they are not patentably distinct from each other because the combination of claims 1

and 3 of the present invention is equivalent to claim 1 of copending Application No.

09/793,035, where Wu (US 6,614,936) can be combined to teach that there can be at

least a fractional bit plane, as noted in Wu's fig.9. Similarly, the combination of claims

25 and 27 of the present invention is equivalent to claim 9 of copending Application No.

09/793,035. Also, the combination of claims 13 and 15 of the present invention is

equivalent to claim 11 of copending Application No. 09/793,035. And claim 7 of the

present invention is almost identical to claim 5 of copending Application No. 09/793,035,

claim 19 of the present invention is almost identical to claim 12 of copending Application

No. 09/793,035, and claim 31 of the present invention is almost identical to claim 10 of

copending Application No. 09/793,035.

This is a <u>provisional</u> obviousness-type double patenting rejection because the

conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 13-24 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claims 13-24 are written in such a manner that

a memory medium can be reasonably interpreted as containing instructions to be listed

as computer program coded language written on a piece of paper. Because of the

ambiguous nature of the claims as currently written in the preamble of claims 13-24,

claims 13-24 need to be produced in a tangible body, machine readable, and be non-

function descriptive material, meaning that a compressed signal needs to be produced

by a method, apparatus, arrangement or system. So claims 13-24 need to be cancelled

to overcome the 35 U.S.C. 101 rejection. The preamble needs to precisely disclose "a

computer-readable medium *encoded with* computer programmable executable

instructions, the computer-readable medium comprising:". See MPEP 706.03(a).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 6-9, 12-15, 18-21, 24-27, 30-33 and 36 are rejected under 35 U.S.C.

103(a) as being unpatentable over Wu (6,614,936) in view of Xin (US 2004/0071358).

Regarding claims 1, 13 and 25, Wu discloses a memory medium, an apparatus

and a method of coding video, comprising the steps of:

encoding an uncoded video to generate extended base layer reference frames

(see fig.4, note extended base layer reference frames are produced, via "1st Layer",

"2nd Layer", "3rd Layer"; also peruse figs.5 and 11-13), each of the extended base layer

reference frames including a base layer reference frame and at least a portion of an

associated enhancement layer reference frame (fig.4, note each of the extended base

layer reference frames includes data from a base layer, ie. note extended baser layer

frames 3 and 5 from 1st layer, these frames are generated from a base layer reference

frame and at least a portion of an associated enhancement layer reference frame); and

generating frame residuals from the uncoded video and the extended base layer

reference frames (col.9, ln.59 to col.10, ln.28 and figs.4-5 and 9, note frame residuals

are generated from the uncoded video data and the extended base layer from base

layer coder 82 and combining enhancement layer 84).

Wu does not specifically disclose the fractional bit plane of an associated

enhancement layer reference frame. However, Xin teaches the use of the fractional bit

plane of an associated enhancement layer reference frame (fig.10, note the use of

fractional bit planes, where BIT-PLANE 0 is one fractional bit plane, BIT-PLANE 1 is a

second fractional bit plane, BIT-PLANE 2 is the third fractional bit plane, and BIT-

PLANE 3 is the fourth fractional bit plane, where these fractional bit planes of the frame

images are encoded according to a layered scheme). Therefore, it would have been

obvious to one of ordinary skill in the art to combine the teachings of Wu and Xin as a

whole for yield high encoding efficiency and good error recovery during data

transmission over the Internet and wireless channels (Xin paragraph 0014).

Regarding claims 2, 14 and 26, Wu discloses further comprising the step of

coding the frame residuals with a scalable codec selected from the group consisting of

DCT based codecs or wavelet based codecs to generate enhancement layer frames

(col.9, ln.11-16 and ln.42-49).

Regarding claims 3, 15 and 27, Wu discloses further the step of coding the frame

residuals with the use of progressive fine granular scalable codec to generate fine

granular scalable enhancement layer frames (see col.5, ln.23-33 and col.9, ln.14-21, ln.

54-58).

Regarding claims 6, 18 and 30, Wu discloses wherein the frame residuals further

include P frame residuals (col.10, ln.38-47).

Regarding claims 7, 19 and 31, Wu discloses a memory medium, an apparatus

and a method of coding video, comprising the steps of:

encoding an uncoded video to generate extended base layer reference frames

(see fig.4, note extended base layer reference frames are produced, via "1st Layer",

"2nd Layer", "3rd Layer"; also peruse figs.5 and 11-13), each of the extended base layer

reference frames including a base layer reference frame and at least a portion of an

associated enhancement layer reference frame (fig.4, note each of the extended base

layer reference frames includes data from a base layer, ie. note extended baser layer

frames 3 and 5 from 1st layer, these frames are generated from a base layer reference

frame and at least a portion of an associated enhancement layer reference frame); and

generating frame residuals from the uncoded video and the extended base layer

reference frames (col.9, ln.59 to col.10, ln.28 and figs.4-5 and 9, note frame residuals

are generated from the uncoded video data and the extended base layer from base

layer coder 82 and combining enhancement layer 84).

Although Wu does not specifically disclose the use of a decoder for decoding the

video, however, it would have been obvious to one of ordinary skill in the art to have a

decoder to decode the encoded video data for viewing the video images at the display.

It is clear that Wu must have a decoder otherwise the coding of image data would be

pointless if there is no decoder to decode image data for viewing at the display.

Wu does not specifically disclose the fractional bit plane of an associated

enhancement layer reference frame. However, Xin teaches the use of the fractional bit

plane of an associated enhancement layer reference frame (fig.10, note the use of

fractional bit planes, where BIT-PLANE 0 is one fractional bit plane, BIT-PLANE 1 is a

second fractional bit plane, BIT-PLANE 2 is the third fractional bit plane, and BIT-

PLANE 3 is the fourth fractional bit plane, where these fractional bit planes of the frame images are encoded according to a layered scheme). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Wu and Xin as a whole for yield high encoding efficiency and good error recovery during data transmission over the Internet and wireless channels (Xin paragraph 0014).

Regarding claims 8, 20 and 32, Wu discloses further comprising the step of coding the frame residuals with a scalable codec selected from the group consisting of DCT based codecs or wavelet based codecs to generate enhancement layer frames (col.9, ln.11-16 and ln.42-49).

Although Wu does not specifically disclose the use of a decoder for decoding the video, however, it would have been obvious to one of ordinary skill in the art to have a decoder to decode the encoded video data for viewing the video images at the display. It is clear that Wu must have a decoder otherwise the coding of image data would be pointless if there is no decoder to decode image data for viewing at the display.

Regarding claims 9, 21 and 33, Wu discloses generating enhancement layer frames from the frame residuals (col.5, ln.23-33); and generating an enhanced video from the base layer frames and the enhancement layer frames (col.5, ln.23-33, col.9, ln.14-21, ln.54-58 and figs. 4-5 and 11-12).

Regarding claims 12, 24 and 36, Wu discloses wherein the frame residuals further include P frame residuals (col.10, ln.38-47).

Claims 4-5, 10-11, 16-17, 22-23, 28-29 and 34-35 are rejected under 35 U.S.C.

103(a) as being unpatentable over Wu (6,614,936) and Xin (US 2004/0071358) in view

of De Bonet (6,510,177).

Regarding claims 4, 16 and 28, Wu discloses coding the frame residuals (col.9,

ln.11-16 and ln.42-49). Wu and Xin do not specifically disclose using B frame residuals.

However, De Bonet discloses a method of coding video according to claim 1, wherein

the frame residuals include B frame residuals (col.12, ln.41-44 and fig.6, element 655

calculates the B frame residuals). Therefore, it would have been obvious to one of

ordinary skill in the art to combine the teachings of Wu, Xin and De Bonet as a whole for

accurately, effectively encode image data for viewing high quality images on high

definition televisions (col.3, ln.45-54).

Regarding claims 5, 17 and 29, Wu discloses wherein the frame residuals further

include P frame residuals (col.10, ln.38-47).

Regarding claims 10, 22 and 34, Wu discloses coding the frame residuals (col.9,

ln.11-16 and ln.42-49). Wu and Xin do not specifically disclose using B frame residuals.

However, De Bonet discloses a method of coding video according to claim 1, wherein

the frame residuals include B frame residuals (col.12, ln.41-44 and fig.6, element 655

calculates the B frame residuals). Therefore, it would have been obvious to one of

ordinary skill in the art to combine the teachings of Wu, Xin and De Bonet as a whole for

accurately, effectively encode image data for viewing high quality images on high

definition televisions (col.3, ln.45-54).

Although Wu does not specifically disclose the use of a decoder for decoding the video, however, it would have been obvious to one of ordinary skill in the art to have a decoder to decode the encoded video data for viewing the video images at the display. It is clear that Wu must have a decoder otherwise the coding of image data would be pointless if there is no decoder to decode image data for viewing at the display.

Regarding claims 11, 23 and 35, Wu discloses discloses wherein the frame residuals further include P frame residuals (col.10, ln.38-47).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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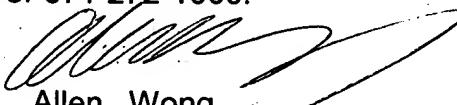
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Primary Examiner
Art Unit 2621

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